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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/681,571	05/01/2001	Manoj Ramprasad Shah	RD-28623	6751
6147	7590	10/04/2004	EXAMINER	
GENERAL ELECTRIC COMPANY GLOBAL RESEARCH PATENT DOCKET RM. BLDG. K1-4A59 NISKAYUNA, NY 12309			SHARON, AYAL I	
			ART UNIT	PAPER NUMBER
			2123	

DATE MAILED: 10/04/2004

Please find below and/or attached an Office communication concerning this application or proceeding.

# Office Action Summary

Application No.

09/681,571

Applicant(s)

SHAH ET AL.

Examiner

Ayal I Sharon

Art Unit

2123

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

## Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

## Status

- 1) ☒ Responsive to communication(s) filed on 01 May 2001.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

## Disposition of Claims

- 4) ☒ Claim(s) 1-17 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 1-17 is/are rejected.
- 7) ☐ Claim(s) \_\_\_\_\_ is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

## Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 5/7/20002 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.
- Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
- Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

## Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

a) ☐ All b) ☐ Some \* c) ☐ None of:

1. ☐ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

\* See the attached detailed Office action for a list of the certified copies not received.

## Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☒ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)  
Paper No(s)/Mail Date 4/2/2004.
- 4) ☐ Interview Summary (PTO-413)  
Paper No(s)/Mail Date. \_\_\_\_\_.
- 5) ☐ Notice of Informal Patent Application (PTO-152)
- 6) ☐ Other: \_\_\_\_\_.

## DETAILED ACTION

### *Introduction*

1. Claims 1-17 of U.S. Application 09/681,571 filed on 05/01/2001 are presented for examination.

### *Claim Interpretations*

2. Examiner interprets the following terms according to their definitions in The IEEE Standard Dictionary of Electrical and Electronics Terms, 6<sup>th</sup> Ed. (1996), as follows:
  - a. "Flange" – synonymous with "coupling flange" (IEEE, p.230, and p.415),  
"The disc-shaped element of a half coupling that permits attachment to a mating half coupling."
  - b. "Keybar" – synonymous with "key", definition 2 – rotating machinery (IEEE, p.566), "A bar that by being recessed partly in each of two adjacent members serves to transmit a force from one to the other."
  - c. "Phase Belt" - (IEEE, p.765), "A group of adjacent coils in a distributed polyphase winding of an alternating-current machine that are ordinarily connected in series to form one section of a phase winding of the machine. Usually, there are as many such phase belts per phase as there

Art Unit: 2123

are poles in the machine. Note: The adjacent coils of a phase belt do not necessarily occupy adjacent slots ... "

- d. "Rotor" - definition 2 – rotating machinery (IEEE, p.936), "The rotating member of a machine, with shaft. Note: In a direct-current machine with stationary field poles, universal, alternating –current series, and repulsion-type motors, it is called the armature."
  - e. "Stator" – definition 2 – rotating machinery (IEEE, p.1044), "The portion that includes and supports the stationary active parts. The stator includes the stationary parts of the magnetic circuit and the associated winding and leads. It may, depending on the design, include a frame or shell, winding supports, ventilation circuits, coolers, and temperature detectors. A base, if provided, is not ordinarily considered to be part of the stator."
3. Based on Section 20.15.5 "Stator Casing" (p.20/40) in Electrical Engineer's Reference Book, examiner interprets that the Keybars are the bars that create the Stator casing.

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***Claim Rejections - 35 USC § 112***

4. The following is a quotation of the first paragraph of 35 U.S.C. 112:

The specification shall contain a written description of the invention, and of the manner and process of making and using it, in such full, clear, concise, and exact terms as to enable any person skilled in the art to which it pertains, or with which it is most nearly connected, to make and use the same and shall set forth the best mode contemplated by the inventor of carrying out his invention.

Art Unit: 2123

5. Claims 1-17 are rejected under 35 U.S.C. 112, first paragraph, as containing subject matter which was not described in the specification in such a way as to enable one skilled in the art to which it pertains, or with which it is most nearly connected, to make and/or use the invention.

The claims refer to “determining electromagnetic effects”, however, the extent of enablement in the specification (paragraph 13) consists of the sentence:

“In embodiments wherein computer simulation is selected, advanced analytical methods such as time stepping finite elements with rotation permit a designer to quantitatively determine the subtle effects of relative locations of the keybars with respect to the phase belts on keybar voltages for a given load.”

Examiner finds that the phrase “... advanced analytical methods such as ...” is not enabling because it would require undue experimentation on the part of one of ordinary skill in the art what analytical methods fall into the category of “advanced”.

Moreover, Examiner finds that that the phrase “... time stepping finite elements with rotation ...” is not sufficient to enable one of ordinary skill in the art to implement a computer simulation of electromechanical effects without also requiring undue experimentation on the part of one of ordinary skill in the art.

MPEP §2106 (V)(B)(2) states the following:

In many instances, an applicant will describe a programmed computer by outlining the significant elements of the programmed computer using a functional block diagram. Office personnel should review the specification to ensure that along with the functional block diagram the disclosure provides information that adequately describes each "element" in hardware or hardware and its associated software and how such elements are interrelated. See *In re Scarbrough*, 500 F.2d 560, 565, 182 USPQ 298, 301-02 (CCPA 1974) ("It is not enough that a person skilled in the art, by carrying on investigations along the line indicated in the instant application, and by a great amount of work eventually might find out how to make and use the instant invention. The statute requires the application itself to inform, not to direct others to find out for themselves (citation omitted)."); *Knowlton*, 481 F.2d at 1367, 178 USPQ at 493 (disclosure must constitute more than a "sketchy explanation of flow diagrams or a bare group of program listings together with a reference to a proprietary computer on which they might be run"). See also *In re Gunn*, 537 F.2d 1123, 1127-28, 190 USPQ 402, 405 (CCPA 1976); *In re Brandstadter*, 484 F.2d 1395, 1406-07, 179 USPQ 286, 294 (CCPA 1973); and *In re Ghiron*, 442 F.2d 985, 991, 169 USPQ 723, 727-28 (CCPA 1971).

However, in the present application, not even a "sketchy explanation of flow diagrams" has been presented for the claimed "determining electromagnetic effects". No equations or algorithms have been presented.

6. Claims 1-17 are rejected under 35 U.S.C. 112, first paragraph, as failing to comply with the written description requirement. The claim(s) contains subject matter which was not described in the specification in such a way as to reasonably convey to one skilled in the relevant art that the inventor(s), at the time the application was filed, had possession of the claimed invention.

The claims refer to "determining electromagnetic effects", however, other than the following paragraph in the specification (paragraph 13), there is no other written description of this functionality:

"In embodiments wherein computer simulation is selected, advanced analytical methods such as time stepping finite elements with rotation

Art Unit: 2123

permit a designer to quantitatively determine the subtle effects of relative locations of the keybars with respect to the phase belts on keybar voltages for a given load."

7. The specification regarding the claimed invention is deficient in the areas cited above. Accordingly, the examiner has made prior art rejections based on the limited scope of information contained in the specification for supporting the claims. The rejections are complete and specifically applied against the claims based on this limited disclosure.

#### ***Claim Rejections - 35 USC § 102***

8. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

9. The prior art used for these rejections is as follows:

10. Ito et al., "Dynamic Characteristics and Design Technology of Turbine Generator

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Stator Frame." IEEE Transactions on Energy Conversion, June, 1988. Vol.3,

Issue 2, pp.420-426. (Henceforth referred to as "Ito").

11. The claim rejections are hereby summarized for Applicant's convenience. The detailed rejections follow.

12. **Claims 1-17 are rejected under 35 U.S.C. 102(b) as being anticipated by Ito.**

13. In regards to Claim 1, Ito teaches the following limitations:



Art Unit: 2123

1. A method for designing a stator for an electric machine comprising lamination segments coupled to a stator frame by keybars and stator winding phase belts within stator slots of the lamination segments, the method comprising:

determining electromagnetic effects of adjusting positions of the keybars with respect to positions of the phase belts; and

(Ito, especially: p.422-423 "Theoretical Investigation", and Fig.6 on p.422, where the suffix 'SB' refers to the 'Spring Bar', which corresponds to the claimed 'keybars'.

The "electromagnetic vibration of a rotor in operation", which is negated, along with the effects of "stator slots" and "phase belts", is discussed in p.420, "Introduction" and Fig.1 on p.420)

selecting a position of the keybars with respect to a position of the phase belts which provides minimal adverse electromagnetic effects.

(Ito, especially: p.422-423 "Theoretical Investigation", and Fig.6 on p.422, where the suffix 'SB' refers to the 'Spring Bar', which corresponds to the claimed 'keybars'.

The "electromagnetic vibration of a rotor in operation", which is negated, along with the effects of "stator slots" and "phase belts", is discussed in p.420, "Introduction" and Fig.1 on p.420)

14. In regards to Claim 2, Ito teaches the following limitations:

2. The method of claim 1 further comprising determining electromagnetic effects of adjusting the number of keybars, and wherein selecting the position of the keybars comprises selecting both the position of the keybars and a number of the keybars to provide minimal adverse electromagnetic effects.

(Ito, especially: p.422-423 "Theoretical Investigation", and Fig.6 on p.422, where the suffix 'SB' refers to the 'Spring Bar', which corresponds to the claimed 'keybars'. The parameter ' $\Phi$ ' is directly related to the number of bars.

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The "electromagnetic vibration of a rotor in operation", which is negated, along with the effects of "stator slots" and "phase belts", is discussed in p.420, "Introduction" and Fig.1 on p.420)

15. In regards to Claim 3, Ito teaches the following limitations:

3. The method of claim 1 further comprising determining electromagnetic effects of adjusting the number of stator slots, and wherein selecting the position of the keybars comprises selecting both the position of the keybars and a number of the stator slots to provide minimal adverse electromagnetic effects.

Art Unit: 2123

(Ito, especially: p.422-423 "Theoretical Investigation", and Fig.6 on p.422, where the suffix 'SB' refers to the 'Spring Bar', which corresponds to the claimed 'keybars'. The parameter ' $\Phi$ ' is directly related to the position of keybars.

The "electromagnetic vibration of a rotor in operation", which is negated, along with the effects of "stator slots" and "phase belts", is discussed in p.420, "Introduction" and Fig.1 on p.420)

16. In regards to Claim 4, Ito teaches the following limitations:

4. The method of claim 1 further comprising determining electromagnetic effects of adjusting a direction of rotation of a rotor with respect to the stator, and wherein selecting the position of the keybars comprises selecting both the position of the keybars and a direction of rotation to provide minimal adverse electromagnetic effects.

(Ito, especially: p.422-423 "Theoretical Investigation", and Fig.6 on p.422, where the suffix 'SB' refers to the 'Spring Bar', which corresponds to the claimed 'keybars'.

The "electromagnetic vibration of a rotor in operation", which is negated, along with the effects of "stator slots" and "phase belts", is discussed in p.420, "Introduction" and Fig.1 on p.420. The direction of rotation of the rotor in Fig.6 is orthogonal to "L".)

17. In regards to Claim 5, Ito teaches the following limitations:

5. A method for designing a stator for an electric machine comprising lamination segments coupled to a stator frame by keybars and stator winding phase belts within stator slots of the lamination segments, the method comprising:

determining electromagnetic effects of adjusting positions of the keybars with respect to positions of the phase belts, adjusting the number of keybars, and adjusting the number of stator slots; and

(Ito, especially: p.422-423 "Theoretical Investigation", and Fig.6 on p.422, where the suffix 'SB' refers to the 'Spring Bar', which corresponds to the claimed 'keybars'.

The "electromagnetic vibration of a rotor in operation", which is negated, along with the effects of "stator slots" and "phase belts", is discussed in p.420, "Introduction" and Fig.1 on p.420)

selecting a position of the keybars with respect to a position of the phase belts, a number of the keybars, and a number of stator slots which collectively provide minimal adverse electromagnetic effects.

Art Unit: 2123

(Ito, especially: p.422-423 "Theoretical Investigation", and Fig.6 on p.422, where the suffix 'SB' refers to the 'Spring Bar', which corresponds to the claimed 'keybars'.

The "electromagnetic vibration of a rotor in operation", which is negated, along with the effects of "stator slots" and "phase belts", is discussed in p.420, "Introduction" and Fig.1 on p.420)

18. In regards to Claim 6, Ito teaches the following limitations:

6. The method of claim 5 further comprising determining electromagnetic effects of adjusting a direction of rotation of a rotor with respect to the stator, and selecting a direction of rotation to provide minimal adverse electromagnetic effects.

(Ito, especially: p.422-423 "Theoretical Investigation", and Fig.6 on p.422, where the suffix 'SB' refers to the 'Spring Bar', which corresponds to the claimed 'keybars'.

The direction of rotation of the rotor in Fig.6 is orthogonal to "L".)

19. In regards to Claim 7, Ito teaches the following limitations:

7. A method for designing a stator for an electric machine comprising lamination segments coupled to a stator frame by keybars and stator winding phase belts within stator slots of the lamination segments, the method comprising:

determining electromagnetic effects of adjusting the number of keybars; and  
(Ito, especially: p.422-423 "Theoretical Investigation", and Fig.6 on p.422, where the suffix 'SB' refers to the 'Spring Bar', which corresponds to the claimed 'keybars'.

The "electromagnetic vibration of a rotor in operation", which is negated, along with the effects of "stator slots" and "phase belts", is discussed in p.420, "Introduction" and Fig.1 on p.420)

selecting a number of the keybars which provides minimal adverse electromagnetic effects.

(Ito, especially: p.422-423 "Theoretical Investigation", and Fig.6 on p.422, where the suffix 'SB' refers to the 'Spring Bar', which corresponds to the claimed 'keybars'.

The "electromagnetic vibration of a rotor in operation", which is negated, along with the effects of "stator slots" and "phase belts", is discussed in p.420, "Introduction" and Fig.1 on p.420)

20. In regards to Claim 8, Ito teaches the following limitations:

Art Unit: 2123

8. The method of claim 7 further comprising determining electromagnetic effects of adjusting the number of stator slots, and wherein selecting the number of the keybars comprises selecting both the number of the keybars and a number of the stator slots to provide minimal adverse electromagnetic effects. (Ito, especially: p.422-423 "Theoretical Investigation", and Fig.6 on p.422, where the suffix 'SB' refers to the 'Spring Bar', which corresponds to the claimed 'keybars'. The parameter ' $\Phi$ ' is directly related to the number of bars.

The "electromagnetic vibration of a rotor in operation", which is negated, along with the "stator slots" is discussed in p.420, "Introduction" and Fig.1 on p.420)

21. In regards to Claim 9, Ito teaches the following limitations:

9. A method for designing a stator for an electric machine comprising lamination segments coupled to a stator frame by keybars and stator winding phase belts within stator slots of the lamination segments, the method comprising:

determining electromagnetic effects of adjusting the number of stator slots', and selecting a number of the stator slots which provides minimal adverse electromagnetic effects.

(Ito, especially: p.422-423 "Theoretical Investigation", and Fig.6 on p.422, where the suffix 'SB' refers to the 'Spring Bar', which corresponds to the claimed 'keybars'.

The "electromagnetic vibration of a rotor in operation", which is negated, along with the effects of "stator slots" and "phase belts", is discussed in p.420, "Introduction" and Fig.1 on p.420)

22. In regards to Claim 10, Ito teaches the following limitations:

10. A method for operating an electric machine comprising a rotor and a stator comprising lamination segments coupled to a stator frame by keybars and stator winding phase belts within stator slots of the lamination segments, the method comprising selecting a direction of rotation of the rotor which provides minimal adverse electromagnetic effects on the keybars.

(Ito, especially: p.422-423 "Theoretical Investigation", and Fig.6 on p.422, where the suffix 'SB' refers to the 'Spring Bar', which corresponds to the claimed 'keybars'.

The "electromagnetic vibration of a rotor in operation", which is negated, along with the effects of "stator slots" and "phase belts", is discussed in p.420, "Introduction" and Fig.1 on p.420)

23. In regards to Claim 11, Ito teaches the following limitations:

11. A system for designing a stator for an electric machine comprising

Art Unit: 2123

lamination segments coupled to a stator frame by keybars and stator winding phase belts within stator slots of the lamination segments, the system comprising;

means for determining electromagnetic effects of adjusting positions of the keybars with respect to positions of the phase belts; and

(Ito, especially: p.422-423 "Theoretical Investigation", and Fig.6 on p.422, where the suffix 'SB' refers to the 'Spring Bar', which corresponds to the claimed 'keybars'.

The "electromagnetic vibration of a rotor in operation", which is negated, along with the effects of "stator slots" and "phase belts", is discussed in p.420, "Introduction" and Fig.1 on p.420)

means for selecting a position of the keybars with respect to a position of the phase belts which provides minimal adverse electromagnetic effects.

(Ito, especially: p.422-423 "Theoretical Investigation", and Fig.6 on p.422, where the suffix 'SB' refers to the 'Spring Bar', which corresponds to the claimed 'keybars'.

The "electromagnetic vibration of a rotor in operation", which is negated, along with the effects of "stator slots" and "phase belts", is discussed in p.420, "Introduction" and Fig.1 on p.420)

24. In regards to Claim 12, Ito teaches the following limitations:

12. The system of claim 10 wherein the means for determining and the means for selecting comprise a computer.

(Ito, especially: p.424, "Application of CAE", where 'CAE' is an acronym for 'Computer Aided Engineering'.)

25. In regards to Claim 13, Ito teaches the following limitations:

13. A system for designing a stator for an electric machine comprising lamination segments coupled to a stator frame by keybars and stator winding phase belts within stator slots of the lamination segments, the system comprising:

means for determining electromagnetic effects of adjusting positions of the keybars with respect to positions of the phase belts, adjusting the number of keybars, and adjusting the number of stator slots; and

(Ito, especially: p.422-423 "Theoretical Investigation", and Fig.6 on p.422, where the suffix 'SB' refers to the 'Spring Bar', which corresponds to the claimed 'keybars'.

Art Unit: 2123

The "electromagnetic vibration of a rotor in operation", which is negated, along with the effects of "stator slots" and "phase belts", is discussed in p.420, "Introduction" and Fig.1 on p.420)

means for selecting a position of the keybars with respect to a position of the phase belts, a number of the keybars, and a number of stator slots which collectively provides minimal adverse electromagnetic effects.

(Ito, especially: p.422-423 "Theoretical Investigation", and Fig.6 on p.422, where the suffix 'SB' refers to the 'Spring Bar', which corresponds to the claimed 'keybars'.

The "electromagnetic vibration of a rotor in operation", which is negated, along with the effects of "stator slots" and "phase belts", is discussed in p.420, "Introduction" and Fig.1 on p.420)

26. In regards to Claim 14, Ito teaches the following limitations:

14. A system for designing a stator for an electric machine comprising lamination segments coupled to a stator frame by keybars and stator winding phase belts within stator slots of the lamination segments, the system comprising:

means for determining electromagnetic effects of adjusting the number of keybars; and

(Ito, especially: p.422-423 "Theoretical Investigation", and Fig.6 on p.422, where the suffix 'SB' refers to the 'Spring Bar', which corresponds to the claimed 'keybars'.

The "electromagnetic vibration of a rotor in operation", which is negated, along with the effects of "stator slots" and "phase belts", is discussed in p.420, "Introduction" and Fig.1 on p.420)

means for selecting a number of the keybars which provides minimal adverse electromagnetic effects.

(Ito, especially: p.422-423 "Theoretical Investigation", and Fig.6 on p.422, where the suffix 'SB' refers to the 'Spring Bar', which corresponds to the claimed 'keybars'.

The "electromagnetic vibration of a rotor in operation", which is negated, along with the effects of "stator slots" and "phase belts", is discussed in p.420, "Introduction" and Fig.1 on p.420)

27. In regards to Claim 15, Ito teaches the following limitations:

15. A system for designing a stator for an electric machine comprising lamination segments coupled to a stator frame by keybars and stator winding phase belts within stator slots of the lamination segments, the system

Art Unit: 2123

comprising :

means for determining electromagnetic effects of adjusting the number of stator slots; and

(Ito, especially: p.422-423 "Theoretical Investigation", and Fig.6 on p.422, where the suffix 'SB' refers to the 'Spring Bar', which corresponds to the claimed 'keybars'.

The "electromagnetic vibration of a rotor in operation", which is negated, along with the effects of "stator slots" and "phase belts", is discussed in p.420, "Introduction" and Fig.1 on p.420)

means for selecting a number of the stator slots which provides minimal adverse electromagnetic effects.

(Ito, especially: p.422-423 "Theoretical Investigation", and Fig.6 on p.422, where the suffix 'SB' refers to the 'Spring Bar', which corresponds to the claimed 'keybars'.

The "electromagnetic vibration of a rotor in operation", which is negated, along with the effects of "stator slots" and "phase belts", is discussed in p.420, "Introduction" and Fig.1 on p.420)

28. In regards to Claim 16, Ito teaches the following limitations:

16. A system for designing a stator for an electric machine comprising lamination segments coupled to a stator frame by keybars and stator winding phase belts within stator slots of the lamination segments, the system comprising a computer for performing simulations to determine electromagnetic effects of adjusting positions of the keybars with respect to positions of the phase belts.

(Ito, especially: p.422-423 "Theoretical Investigation", and Fig.6 on p.422, where the suffix 'SB' refers to the 'Spring Bar', which corresponds to the claimed 'keybars'.

The "electromagnetic vibration of a rotor in operation", which is negated, along with the effects of "stator slots" and "phase belts", is discussed in p.420, "Introduction" and Fig.1 on p.420)

29. In regards to Claim 17, Ito teaches the following limitations:

17. A system for designing a stator for an electric machine comprising lamination segments coupled to a stator frame by keybars and stator winding phase belts within stator slots of the lamination segments, the system comprising a computer for performing simulations to determine electromagnetic effects of adjusting positions of the keybars with respect to positions of the phase belts, adjusting the number of keybars, and adjusting the number of stator slots.

Art Unit: 2123

(Ito, especially: p.422-423 "Theoretical Investigation", and Fig.6 on p.422, where the suffix 'SB' refers to the 'Spring Bar', which corresponds to the claimed 'keybars'.

The "electromagnetic vibration of a rotor in operation", which is negated, along with the effects of "stator slots" and "phase belts", is discussed in p.420, "Introduction" and Fig.1 on p.420)

### ***Correspondence Information***

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Ayal I. Sharon whose telephone numbers are (703) 306-0297 *[Before Oct. 25, 2004]* and (571) 272-3714 *[After Oct. 25, 2004]*.

The examiner can normally be reached on Monday through Thursday, and the first Friday of a biweek, 8:30 am – 5:30 pm.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Kevin Teska can be reached at (703) 305-9704 *[Before Oct. 25, 2004]* and (571) 272-3716 *[After Oct. 25, 2004]*.

Any response to this office action should be faxed to (703) 872-9306 or mailed to:

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Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the Tech Center 2100 Receptionist, whose telephone number is (703) 305-3900 *[Before Oct. 25, 2004]* or (571) 272-2100 *[After Oct. 25, 2004]*.



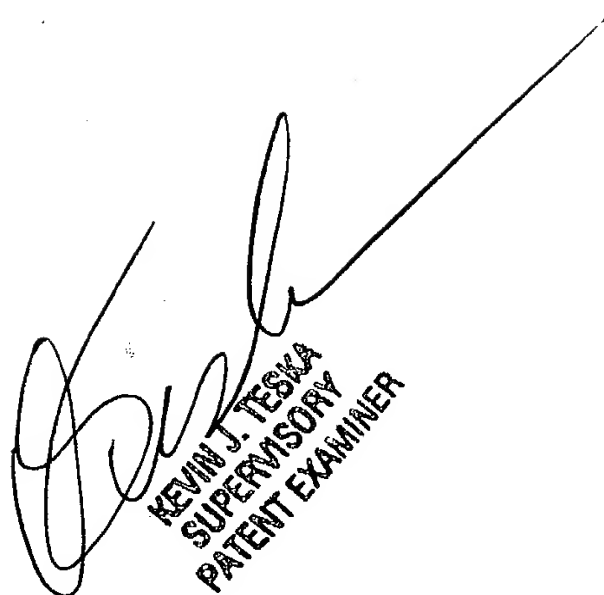
Application/Control Number: 09/681,571  
Art Unit: 2123

Page 15

Ayal I. Sharon

Art Unit 2123

September 29, 2004



KEVIN J. TESKA  
SUPERVISORY  
PATENT EXAMINER